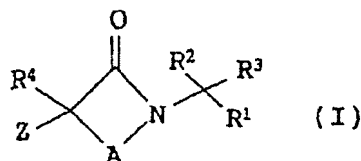


Patent Claims

1. A compound or salts thereof represented by general formula



[wherein, R1 denotes optionally substituted hydrocarbon group, optionally substituted heterocyclic group or group denoted by formula

-CONR5R6

(wherein, R5 and R6 each independently denote hydrogen atom, optionally substituted hydrocarbon group or optionally substituted heterocyclic group),

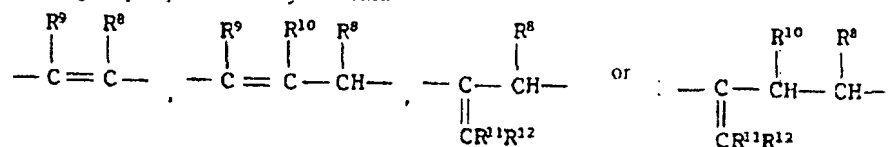
R2 and R3 each independently denote hydrogen atom or optionally substituted hydrocarbon group, or R2 and R3 together with the adjacent carbon atom, may form optionally substituted 3-8 membered cyclic hydrocarbon group,

R4 denotes optionally substituted hydrocarbon group, optionally substituted heterocyclic group or group denoted by formula

-W1R7

(wherein, W1 denotes an oxygen atom or the sulfur atom which may be oxidized, and R7 denotes optionally substituted hydrocarbon group or optionally substituted heterocyclic group),

-A- denotes a group represented by formula



(wherein R8 denotes hydrogen atom or optionally substituted hydrocarbon group, R9 denotes hydrogen atom, cyano group, optionally substituted hydrocarbon group, optionally substituted heterocyclic group, optionally substituted acyl group, or group represented by formula -OR15

(wherein, R15 denotes a hydrogen atom, optionally substituted hydrocarbon group or optionally substituted heterocyclic group),

R10 denotes a hydrogen atom or optionally substituted hydrocarbon group,

R11 denotes a hydrogen atom, halogen atom, optionally substituted hydrocarbon group, optionally substituted heterocyclic group or group represented by formula

-W2R16

(wherein, W2 denotes an oxygen atom or the sulfur atom which may be oxidized, and R16 denotes a hydrogen atom, optionally substituted hydrocarbon group, optionally substituted heterocyclic group or optionally substituted acyl group),

R12 denotes a hydrogen atom, halogen atom or optionally substituted hydrocarbon group,

wherein, the carbon atom that R8 is bonded to form a bond to the nitrogen atom of amide, and the carbon atom that R9 or =CR11R12 is bonded to form a bond with the carbon atom that Z is bonded to),

Z denotes a halogen atom, cyano group, optionally substituted hydrocarbon group, optionally substituted acyl group or group represented by formula

-CONR5aR6a

(wherein, R5a and R6a respectively denote a hydrogen atom or optionally substituted hydrocarbon group)].

2. A compound or salts thereof in accordance with Claim 1, wherein

R1 denotes a group represented by the following [1]-[3];

[1] a hydrocarbon group selected from 1-6C alkyl group 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group {when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, the said hydrocarbon group may be substituted by 1-4 substituents selected from the following (1)-(22);

(1) hydroxy group,

(2) amino group,

(3) cyano group,

(4) sulphamoyl group,

(5) sulphamoyloxy group,

(6) mercapto group,

(7) nitro group,

(8) halogen atom,

(9) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl

group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised),

(10) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxy carbonyl group or alkynyl oxy carbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group, and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxy carbonyl group, aryl oxy carbonyl group, aralkyl carbonyl group, aralkyl oxy carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group),

(11) a group represented by formula -T-Q0

[wherein, Q0 denotes

(a) hydrocarbon group selected from the following (i)-(ix) which may be substituted by 1-5 halogens; (i) 1-6C alkyl group, (ii) 3-6C cycloalkyl group, (iii) 2-6C alkenyl group, (iv) 3-6C cycloalkenyl group, (v) 2-6C alkynyl group, (vi) 6-14C aryl group, (vii) 7-19C aralkyl group, (viii) 8-20C aryl alkenyl group and (ix) 8-20C aryl alkynyl group;

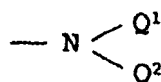
(b) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised), or

(c) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group,

and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl

group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphonyl group, mercapto group, halogen atom and 1-6C alkylthio group), and T denotes -S(O)_k- (k denotes 0, 1 or 2) or -S-S-

(12) a group represented by formula



[wherein, Q¹ denotes (a) hydrogen atom,

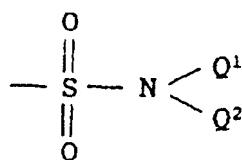
(b) hydrocarbon group selected from the following (i)-(ix) which may be substituted by 1-5 halogens; (i) 1-6C alkyl group, (ii) 3-6C cycloalkyl group, (iii) 2-6C alkenyl group, (iv) 3-6C cycloalkenyl group, (v) 2-6C alkynyl group, (vi) 6-14C aryl group, (vii) 7-19C aralkyl group, (viii) 8-20C aryl alkenyl group and (ix) 8-20C aryl alkynyl group, or

(c) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxy carbonyl group or alkynyl oxy carbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphonyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group,

and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C

cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group), and Q2 denotes (a) hydrocarbon group selected from the following (i)-(ix) which may be substituted by 1-5 halogens; (i) 1-6C alkyl group, (ii) 3-6C cycloalkyl group, (iii) 2-6C alkenyl group, (iv) 3-6C cycloalkenyl group, (v) 2-6C alkynyl group, (vi) 6-14C aryl group, (vii) 7-19C aralkyl group, (viii) 8-20C aryl alkenyl group and (ix) 8-20C aryl alkynyl group, or (b) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group, and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group), or Q1 and Q2 together with adjacent nitrogen atom, may form 3-7 membered ring],

(13) a group represented by formula



(wherein, the symbols in the formula have the same aforesaid definitions),

(14) carbamoyl group which may be mono- or di-substituted by

(a) hydrocarbon group selected from the (i) 1-6C alkyl group, (ii) 3-6C cycloalkyl group, (iii) 2-6C alkenyl group, (iv) 3-6C cycloalkenyl group, (v) 2-6C alkynyl group, (vi) 6-14C aryl group, (vii) 7-19C aralkyl group, (viii) 8-20C aryl alkenyl group and (ix) 8-20C aryl alkynyl group,

(b) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised), or

(c) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group,

and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, nitro group, amino group, hydroxy group, cyano group, sulphonyl group, mercapto group, halogen atom and 1-6C alkylthio group),

(15) carbamoyloxy group which may be mono- or di-substituted by

(a) hydrocarbon group selected from the (i) 1-6C alkyl group, (ii) 3-6C cycloalkyl group, (iii) 2-6C alkenyl group, (iv) 3-6C cycloalkenyl group, (v) 2-6C alkynyl group, (vi) 6-14C aryl group, (vii) 7-19C aralkyl group, (viii) 8-20C aryl alkenyl group and (ix) 8-20C aryl alkynyl group,
 (b) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphonyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised), or

(c) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group,

and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group),

(16) ureide group which may be mono- or di-substituted by

(a) hydrocarbon group selected from the (i) 1-6C alkyl group, (ii) 3-6C cycloalkyl group, (iii) 2-6C alkenyl group, (iv) 3-6C cycloalkenyl group, (v) 2-6C alkynyl group, (vi) 6-14C aryl group, (vii) 7-19C aralkyl group, (viii) 8-20C aryl alkenyl group and (ix) 8-20C aryl alkynyl group, (b) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl

group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised), or

(c) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group,

and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group),

(17) thiocarbamoyl group which may be mono- or di-substituted by

(a) hydrocarbon group selected from the (i) 1-6C alkyl group, (ii) 3-6C cycloalkyl group, (iii) 2-6C alkenyl group, (iv) 3-6C cycloalkenyl group, (v) 2-6C alkynyl group, (vi) 6-14C aryl group, (vii) 7-19C aralkyl group, (viii) 8-20C aryl alkenyl group and (ix) 8-20C aryl alkynyl group, (b) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised), or

(c) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group,

and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group),

(18) carboxyl group,

(19) a group represented by formula -O-SO₂-Q₂ (wherein, Q₂ has the same aforesaid meaning),

(20) sulfo group,

(21) a group represented by formula =N-OR₁₄ (wherein, R₁₄ denotes hydrogen atom, 1-6C alkyl group or 1-6C alkyl-carbonyl group which may be mono- to tri-substituted by halogen),

(22) group comprising 3-6C cycloalkyl group (hereinafter the substituent group (A)); and when aforesaid hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and two adjacent substituents link together, may form methylenedioxy group};

[2] 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3

halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised); or

[3] formula -CONR⁵R⁶

[wherein, R⁵ and R⁶ respectively denote a group represented by (1) hydrogen atom, (2) hydrocarbon group selected from the 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and may form methylenedioxy group together with adjacent 2 substituents) or (3) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-

carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised)]:

R2 and R3 respectively denote hydrogen atom or hydrocarbon group selected from the 1-6C alkyl group 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and may form methylenedioxy group together with adjacent 2 substituents), or R2 and R3 together with adjacent nitrogen atom, may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulfinyl group, 6-14C aryl sulphinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynylthio group and 6-14C arylthio group, or two adjacent substituents link together, may form methylenedioxy group, or may form 3-8 membered cyclic hydrocarbon group:

R4 denotes (1) hydrocarbon group selected from the 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A); and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and 2 adjacent substituents link together, may form methylenedioxy group),

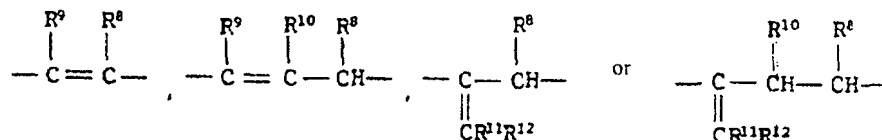
(2) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised) or

(3) group represented by formula -W1R7 [wherein, W1 denotes oxygen atom or sulfur atom which may be mono- or di-oxidised, and R7 denotes (1) hydrocarbon group selected from the 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said

hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and 2 adjacent substituents link together, may form methylenedioxy group), or

(2) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised)]:

- A- denotes



{wherein, R⁸ is hydrogen atom or hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, the said hydrocarbon group

may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, the said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group which may be substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and two adjacent substituents link together, may form methylenedioxy group):

R9 denotes (1) hydrogen atom, (2) cyano group, (3) hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and adjacent 2 substituents link together, may form methylenedioxy group),

(4) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8

membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised),

(5) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxycarbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group,

and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group), or

(6) group represented by formula -OR₁₅ [wherein, R₁₅ denotes (i) hydrogen atom, (ii) hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and adjacent 2 substituents link together, may form methylenedioxy group), or (iii) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen

atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised)]:

R10 denotes hydrogen atom or hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, the said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, the said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group which may be substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and two adjacent substituents link together, may form methylenedioxy group):

R11 denotes (1) hydrogen atom, (2) halogen atom, (3) hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group,

aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and adjacent 2 substituents link together, may form methylenedioxy group),

(4) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-C1-6 alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised), or

(5) group represented by formula -W₂R₁₆ [wherein, W₂ denotes an oxygen atom or optionally mono- or di-oxidised sulfur atom, and R₁₆ denotes (i) hydrogen atom, (ii) hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and adjacent

2 substituents link together, may form methylenedioxy group), (iii) 3-8 membered heterocyclic group containing 1-4 heteroatoms selected from the oxygen atom and sulfur atom (it may be mono- or di-oxidised) and nitrogen atom (it may be oxidised) which may be substituted by 1-3 substituents selected from the group comprising 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 6-14C aryloxy group, 7-19C aralkyloxy group, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 1-6C alkyl sulphinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphinyl group, 2-6C alkynyl sulphinyl group, 6-14C arylsulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, 6-14C aryl sulphonyl group, nitro group, amino group, mono- or di-1-6C alkylamino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group and 6-14C arylthio group, or in which adjacent 2 substituents may link together to form methylenedioxy group; or condensed ring group of 3-8 membered heterocycle containing 1-4 heteroatoms selected from the said 3-8 membered heterocyclic group and benzene ring or nitrogen atom (it may be oxidised), oxygen atom and sulfur atom (it may be mono- or di-oxidised) or (iv) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group, and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl

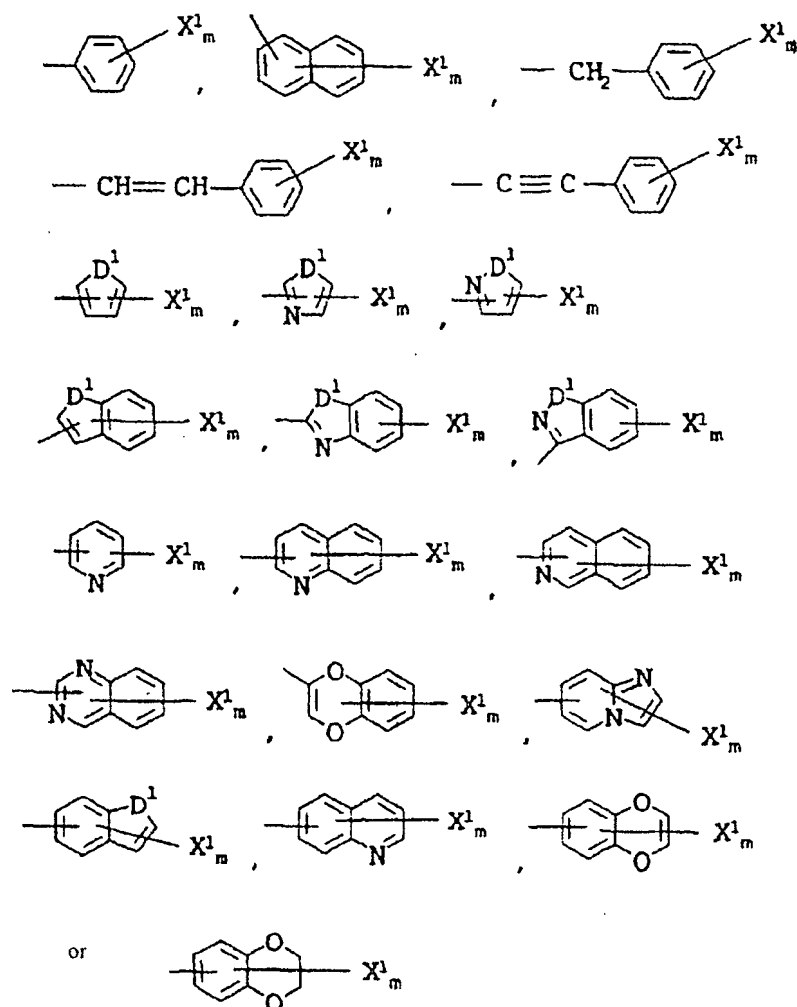
group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphonyl group, mercapto group, halogen atom and 1-6C alkylthio group));

R12 denotes hydrogen atom, halogen atom or hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 5-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and adjacent 2 substituents link together, may form methylenedioxy group), wherein, the carbon atom that R8 is bonded to form a bond to the nitrogen atom of amide, and the carbon atom that R9 or =CR11R12 is bonded to form a bond with the carbon atom that Z is bonded to};

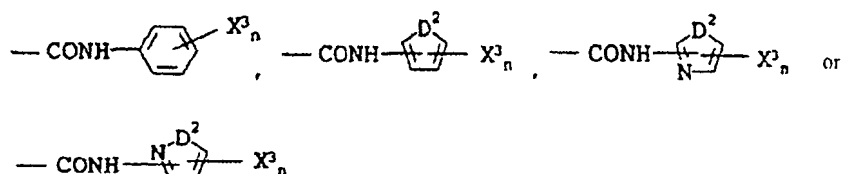
Z denotes (1) halogen atom, (2) cyano group, (3) hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and adjacent 2 substituents link together, may form methylenedioxy group), (4) acyl group selected from the formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C

aralkyloxy-carbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group and 5-6 membered heterocyclic acetyl group (when said acyl group is alkyl carbonyl group, alkenyl carbonyl group, alkynyl carbonyl group, alkoxy-carbonyl group, alkenyl oxycarbonyl group or alkynyl oxycarbonyl group, it may be substituted by 1-3 substituents selected from the hydroxy, cyanogen, sulphamoyl, mercapto, carboxy, 1-6C alkylthio group, halogen atom, 1-6C alkoxy group, nitro group, 1-6C alkoxy-carbonyl group, amino, mono or di 1-6C alkylamino group, 1-6C alkoxyimino group and hydroxyimino group, and when the said acyl group is cycloalkyl carbonyl group, aryl carbonyl group, cycloalkyl oxycarbonyl group, aryl oxycarbonyl group, aralkyl carbonyl group, aralkyl oxycarbonyl group, 5-6 membered heterocyclic carbonyl group, fused heterocyclic carbonyl group or 5-6 membered heterocyclic acetyl group, it may be substituted by 1-5 substituents selected from the 1-6C alkyl group optionally substituted by 1-3 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, formyl group, 1-6C alkyl-carbonyl group, 2-6C alkenyl-carbonyl group, 2-6C alkynyl-carbonyl group, 3-6C cycloalkyl-carbonyl group, 6-14C aryl-carbonyl group, 1-6C alkoxy-carbonyl group, 2-6C alkenyloxy-carbonyl group, 2-6C alkynyl oxy-carbonyl group, 3-6C cycloalkyl oxy-carbonyl group, 6-14C aryloxy-carbonyl group, 7-19C aralkyl-carbonyl group, 7-19C aralkyloxy-carbonyl group nitro group, amino group, hydroxy group, cyano group, sulphamoyl group, mercapto group, halogen atom and 1-6C alkylthio group) or (5) formula -CONR^{5a}R^{6a} [R^{5a} and R^{6a} respectively denote hydrogen atom or hydrocarbon group selected from 1-6C alkyl group, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group, 7-19C aralkyl group, 8-20C aryl alkenyl group and 8-20C aryl alkynyl group (when said hydrocarbon group is alkyl group, alkenyl group or alkynyl group, said hydrocarbon group may be substituted by 1-4 substituents selected from the aforesaid substituent group (A), and when said hydrocarbon group is cycloalkyl group, cycloalkenyl group, aryl group, aralkyl group, aryl alkenyl group or aryl alkynyl group, said hydrocarbon group may be substituted by 1-5 substituents selected from the aforesaid substituent group (A), 1-6C alkyl group optionally substituted by 1-5 halogens, 3-6C cycloalkyl group, 2-6C alkenyl group, 3-6C cycloalkenyl group, 2-6C alkynyl group, 6-14C aryl group and 7-19C aralkyl group, and adjacent 2 substituents may link together to form methylenedioxy group)].

3. A compound or salts thereof in accordance with Claim 1, wherein R¹ denotes groups represented by formula



[wherein, X^1 is the same or different and denotes halogen atom, 1-6C alkyl group optionally substituted by 1-3 halogens, 2-6C alkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 2-6C alkenyloxy group, 2-6C alkynyl oxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 2-6C alkenyl thio group, 2-6C alkynyl thio group, 1-6C alkyl sulfinyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulfinyl group, 2-6C alkynyl sulfinyl group, 1-6C alkylsulfonyl group optionally substituted by 1-3 halogens, 2-6C alkenyl sulphonyl group, 2-6C alkynyl sulphonyl group, phenyl group, phenoxy group, phenylthio group, phenylsulphonyl group, phenylsulfonyl group, amino group, 1-6C alkylamino group, di (1-6C alkyl) amino group, cyano group, nitro group, hydroxy group, benzyl group, benzyloxy group, 1-6C alkyl-carbonyl group or 1-6C alkoxy-carbonyl group, or two adjacent X^1 may be linked together to form methylenedioxy group, and m denotes an integer of 0-3, and D^1 denotes oxygen atom, sulfur atom or a group represented by formula NR^{d1} (wherein, R^{d1} denotes a hydrogen atom or 1-6C alkyl group)], or groups represented by formula



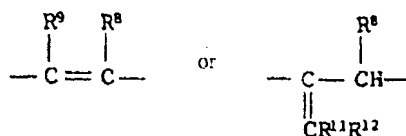
[wherein, X³ is the same or different, and denotes halogen atom, 1-6C alkyl group optionally substituted by 1-3 halogens, 2-6C alkenyl group, 2-6C alkynyl group, 1-6C alkoxy group optionally substituted by 1-3 halogens, 1-6C alkylthio group optionally substituted by 1-3 halogens, 1-6C alkyl sulfinyl group, 1-6C alkylsulfonyl group, 1-6C alkyl-carbonyl group, 1-6C alkoxy-carbonyl group, phenoxy group, formamide group, 1-6C alkyl-carbonylamino group, 1-6C alkylsulfonyloxy group, cyano group or nitro group, and n denotes an integer of 0-3, D² is oxygen atom, sulfur atom or formula NR_{D2} (wherein, R_{D2} denotes a hydrogen atom or 1-6C alkyl group)].

4. A compound or salts thereof in accordance with Claim 1, wherein R₂ and R₃ are each 1-6C alkyl group optionally substituted by 1-3 halogens.

5. A compound or salts thereof in accordance with Claim 1, wherein R₄ is

- (1) (i) phenyl group, (ii) naphthyl group or (iii) thienyl group, each of which may be substituted with 1-3 substituents selected from halogen atom, 1-6C alkyl group optionally substituted by 1-3 halogens and 1-6C alkoxy group optionally substituted by 1-3 halogens,
- (2) 1-6C alkoxy group optionally substituted by 1-3 halogens,
- (3) 2-6C alkenyloxy group optionally substituted by 1-3 halogens,
- (4) 2-6C alkynyloxy group optionally substituted by 1-3 halogens, or
- (5) phenoxy group optionally substituted by 1-3 halogens.

6. A compound or salts thereof in accordance with Claim 1, wherein -A- is group represented by formula



(in the formula notation has the same aforesaid meaning as the description in Claim 1).

7. A compound or salts thereof in accordance with Claim 1, wherein Z is halogen atom, cyano group, 1-6C alkyl group optionally substituted by 1-3 halogens, a group represented by formula -CO₂R₁₇

(wherein, R₁₇ denotes (1) 1-6C alkyl group optionally substituted by 1-3 halogens, or (2) 7-19C aralkyl group optionally substituted by (i) halogen atom, (ii) 1-6C alkyl group optionally

substituted by 1-3 halogens, or (iii) 7-19C aralkyl group which may be mono- to tri-substituted by 1-6C alkoxy group optionally substituted by 1-3 halogens), a group represented by formula -COR17X

(wherein, R17X denotes hydrogen atom or 1-6C alkyl group optionally substituted by 1-3 halogens), or a group represented by formula -CONR5bR6b

(wherein, R5b and R6b respectively denote a hydrogen atom or 1-6C alkyl group optionally substituted by 1-3 halogens).

8. A compound or salts thereof in accordance with Claim 1, wherein R8 is hydrogen atom or 1-6C alkyl group.

9. A compound or salts thereof in accordance with Claim 1, wherein R9 is

- (1) hydrogen atom,
- (2) 1-6C alkyl group optionally substituted by 1-3 substituents selected from (i) halogen, (ii) hydroxy group, (iii) 1-6C alkoxy group, (iv) 1-6C alkylthio group, (v) 1-6C alkyl sulphonyl group, (vi) 1-6C alkylsulfonyl group, (vii) 1-6C alkyl-carbonyl oxy group or (viii) group represented by formula =N-OR14 (wherein, R14 has the same aforesaid meaning as described in Claim 2),
- (3) 3-6C cycloalkyl group,
- (4) 2-6C alkenyl group,
- (5) 1-6C alkoxy group optionally substituted by 1-3 of 1-6C alkoxy,
- (6) cyano group,
- (7) formyl group, or
- (8) hydroxy group.

10. A compound or salts thereof in accordance with Claim 1, wherein R10 is hydrogen atom or 1-6C alkyl group.

11. A compound or salts thereof in accordance with Claim 1, wherein R11 is hydrogen atom, halogen atom, 1-6C alkyl group optionally substituted by 1-3 halogens, 1-6C alkoxy group, 1-6C alkylthio group, 1-6C alkyl sulfinyl group or 1-6C alkylsulfonyl group, and R12 is hydrogen atom, halogen atom or 1-6C alkyl group optionally substituted by 1-3 halogens.

12. A compound or salts thereof in accordance with Claim 1, wherein

- R1 is (1) phenyl group optionally substituted by 1-3 halogens, 1-6C alkyl groups, 1-6C alkoxy groups, 1-6C alkylthio groups, 1-6C alkylsulfinyl groups or 1-6C alkylsulfonyl groups,
- (2) naphthyl group,

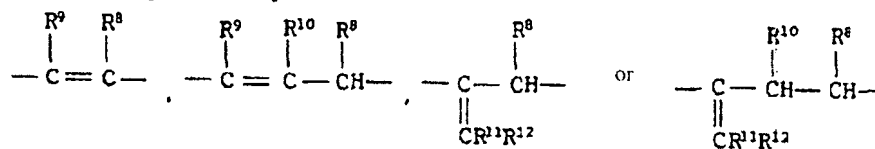
- (3) pyridyl group optionally substituted by 1-3 halogens,
- (4) quinolyl group,
- (5) isoquinolyl group,
- (6) quinazolinyl group optionally substituted by 1-3 of 1-4C alkyl,
- (7) imidazo[1,2-a]pyridyl group optionally substituted by 1-3 halogens,
- (8) 1,4-benzodioxinyl group optionally substituted by 1-3 halogens,
- (9) 2,3-dihydro-1,4-benzodioxinyl group optionally substituted by 1-3 halogens,
- (10) benzofuranyl group, or
- (11) (i) phenyl group optionally substituted by 1-3 substituents selected from halogen, 1-6C alkyl group optionally substituted by 1-3 halogens, 2-6C alkenyl group, 2-6C alkynyl group, 1-6C alkoxy group, 1-6C alkylthio group optionally substituted by 1-3 halogens, 1-6C alkylsulfonyloxy group, formamide group, 1-6C alkyl-carbonylamino group and cyano group, or (ii) carbamoyl group substituted by the thiazolyl group optionally substituted by 1-2 of 1-6C alkyl,

R2 and R3 each independently denote 1-6C alkyl group,

R4 is (1) phenyl group optionally substituted by 1-3 halogens or 1-6C alkyl groups, or

(2) 1-6C alkoxy group,

-A- denotes group represented by formula



(wherein, R8 denotes a hydrogen atom or 1-6C alkyl group,

R9 denotes (1) hydrogen atom, (2) 1-6C alkyl group optionally substituted by 1-3 of halogen, hydroxy group, 1-6C alkoxy group, 1-6C alkylthio group, 1-6C alkyl sulfinyl group, 1-6C alkylsulfonyl group, 1-6C alkyl with carbonyl oxy group, hydroxyimino group, 1-6C alkoxyimino group or 1-6C alkyl-carbonyl oximino group, (3) 3-6C cycloalkyl group, (4) 2-6C alkenyl group, (5) 1-6C alkoxy group optionally substituted by 1-3 of 1-6C alkoxy group, (6) formyl group, (7) cyano group or (8) hydroxy group,

R10 denotes a hydrogen atom or 1-6C alkyl group,

R11 denotes a hydrogen atom, 1-6C alkyl group, 1-6C alkylthio group, 1-6C alkyl sulfinyl group or 1-6C alkylsulfonyl group, and

R12 denotes a hydrogen atom),

Z is (1) 1-6C alkoxy-carbonyl group optionally substituted by 1-3 halogens,

(2) 7-19 aralkyloxy-carbonyl group optionally substituted by 1-3 halogens,

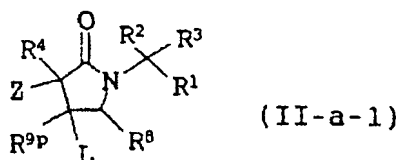
(3) 1-6C alkyl-carbonyl group, or

(4) mono- or di-(1-6C alkyl) carbamoyl group.

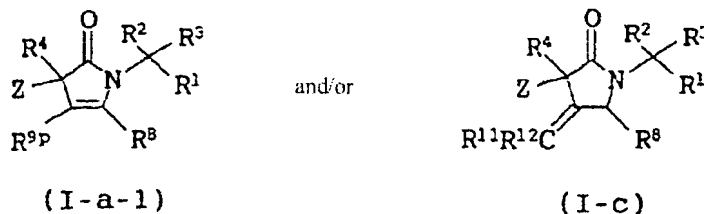
13. Methyl 1-(1-(3,5-dichlorophenyl)-1-methylethyl)-1,3-dihydro-4-methyl-2-oxo-3-phenyl-2H-pyrrole-3-carboxylate or salts thereof.
14. Methyl 1-(1-(3,5-dichlorophenyl)-1-methylethyl)-4-methylene-2-oxo-3-phenylpyrrolidine-3-carboxylate or salts thereof.
15. Methyl 1-(1-(N-[2,5-dichlorophenyl] carbamoyl)-1-methylethyl)-1,3-dihydro-4-methyl-2-oxo-3-phenyl-2H-pyrrole-3-carboxylate or salts thereof
16. Methyl 1-(1-(3,5-dichlorophenyl)-1-methylethyl)-1,3-dihydro-3-(2-fluorophenyl)-4-methyl-2-oxo-2H-pyrrole-3-carboxylate or salts thereof.
17. Methyl 1-(1-(3,5-dichlorophenyl)-1-methylethyl)-3-(2-fluorophenyl)-4-methylene-2-oxopyrrolidin-3-carboxylate or salts thereof.
18. Methyl 1-(1-(N-[3,5-dichlorophenyl] carbamoyl)-1-methylethyl)-4-methylene-2-oxo-3-phenylpyrrolidine-3-carboxylate or salts thereof.

19. A process for the production of a compound or salts thereof in accordance with Claim 1, characterised in that:

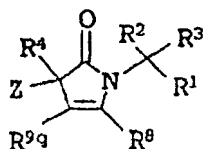
(1) a compound represented by formula



(wherein, R_{9p} denotes a hydrogen atom, optionally substituted hydrocarbon group or optionally substituted heterocyclic group, L denotes a leaving group, and other symbols have the same meanings as described in Claim 1) or a salt thereof is subjected to elimination reaction, thereby producing a compound represented by



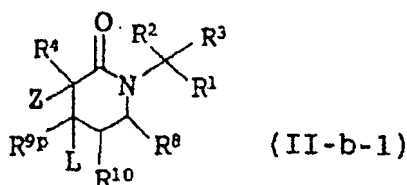
(wherein, R_{9p} has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof, and in accordance with requirements the compound represented by aforesaid formula (I-a-1) or a salt thereof is reacted with an oxidant, and thereby producing a compound represented by formula



(I-a-2)

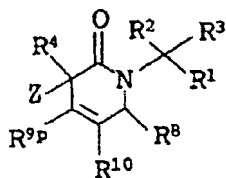
(wherein, R_{9q} denotes optionally substituted acyl group, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(2) a compound represented by formula



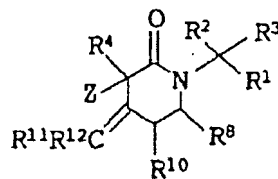
(II-b-1)

(wherein, R_{9p} and L have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof is subjected to elimination reaction, thereby producing a compound represented by



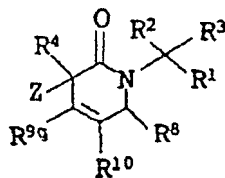
(I-b-1)

and/or



(I-d)

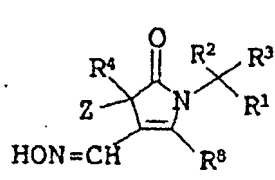
(wherein, R_{9p} has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof, and in accordance with requirements the compound represented by aforesaid formula (I-b-1) or a salt thereof is reacted with an oxidant, and thereby producing a compound represented by formula



(I-b-2)

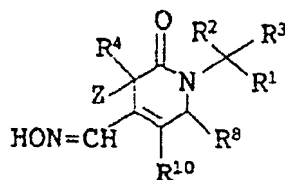
(wherein, R_{9q} has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(3) a compound represented by formula



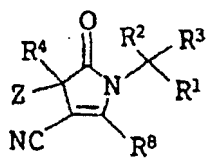
(I-a-1a'')

or



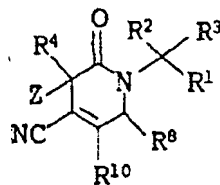
(I-b-1a'')

(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof is subjected to dehydration reaction, and thereby producing a compound represented by



(I-a-4)

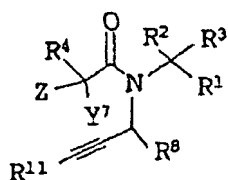
or



(I-b-4)

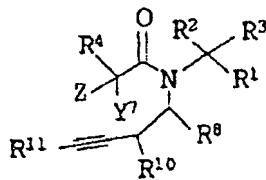
(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof;

(4) a compound represented by formula



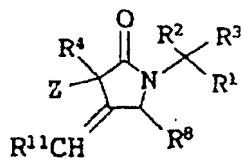
(III-c-1)

or



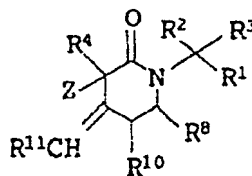
(III-d-1)

(wherein, Y7 denotes a halogen atom, and other symbols have the same meanings as described in Claim 1) or a salt thereof is subjected to ring closure reaction, thereby producing a compound represented by



(I-c-1)

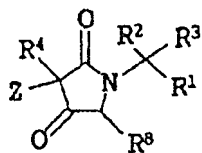
or



(I-d-1)

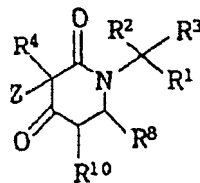
(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof;

(5) a compound represented by formula



(II-a-3)

or

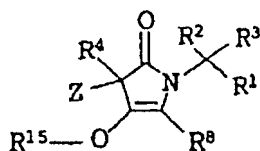


(II-b-3)

(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof is reacted with a compound represented by formula

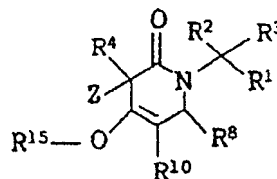


(wherein, L4 denotes leaving group, and R15 has the same meaning as described in Claim 1) or salt thereof, and thereby producing a compound represented by



(I-a-3)

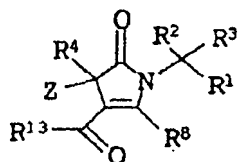
or



(I-b-3)

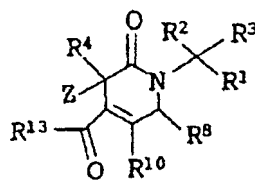
(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof;

(6) a compound represented by formula



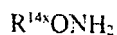
(I-a-2a)

or

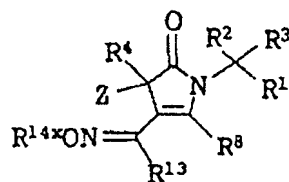


(I-b-2a)

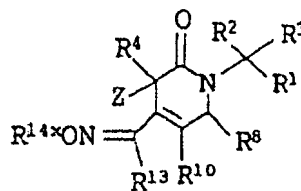
(wherein, R13 denotes hydrogen atom, or (i) 1-6C alkyl group, (ii) 6-14C aryl group or (iii) 7-19C aralkyl group, each of which may be substituted by 1-3 halogens, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with a compound represented by formula



(wherein, R14x denotes a hydrogen atom or 1-6C alkyl group) or a salt thereof, and thereby producing a compound represented by



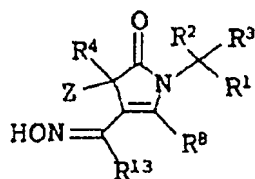
(I-a-1a)



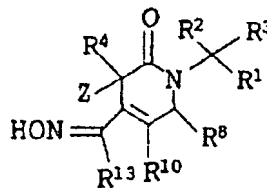
(I-b-1a)

(wherein, R¹³ and R^{14x} have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(7) a compound represented by formula



(I-a-1a')

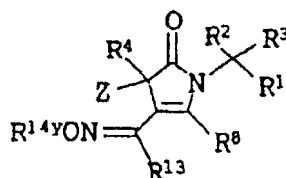


(I-b-1a')

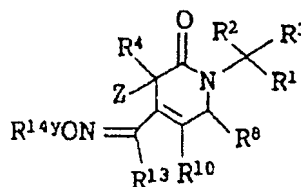
(wherein, R¹³ has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with a compound represented by formula



(wherein, R^{14y} denotes 1-6C alkyl-carbonyl group optionally substituted by 1-3 halogens, and L² denotes leaving group) or salts thereof, and thereby producing a compound represented by



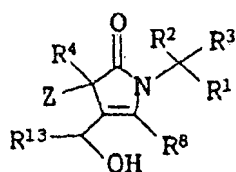
(I-a-1b)



(I-b-1b)

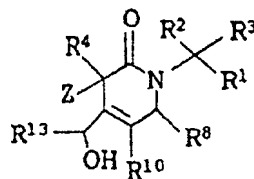
(wherein, R¹³ and R^{14y} have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(8) a compound represented by formula (1-a-2a) or (1-b-2a) or a salt thereof in accordance with the aforesaid (6) is reacted with reducing agent, and thereby producing a compound represented by formula



(I-a-1c)

or

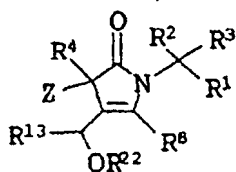


(I-b-1c)

(wherein, R13 has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof, and in accordance with requirements, a compound represented by the aforesaid formula (I-a-1c) or (I-b-1c) or a salt thereof is reacted with a compound represented by formula

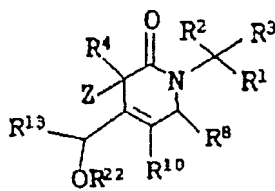


(wherein, R22 denotes (i) 1-6C alkyl group or (ii) 1-6C alkyl-carbonyl group, each of which may be substituted with 1-3 halogens, and L6 denotes leaving group) or salts thereof, and thereby producing a compound represented by



(I-a-1d)

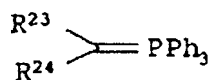
or



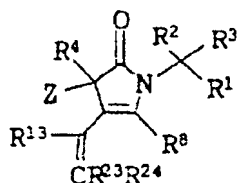
(I-b-1d)

(wherein, R13 and R22 have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(9) a compound represented by formula (I-a-2a) or (I-b-2a) or a salt thereof in accordance with the aforesaid (6) is reacted with a compound represented by

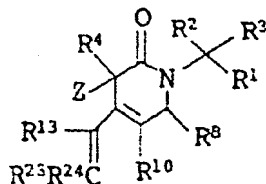


(wherein, R23 and R24 each independently denote hydrogen atom, halogen atom, 1-6C alkyl group or 1-6C alkoxy group, and Ph denotes phenyl group) or a salt thereof, and thereby producing a compound represented by



(I-a-1e)

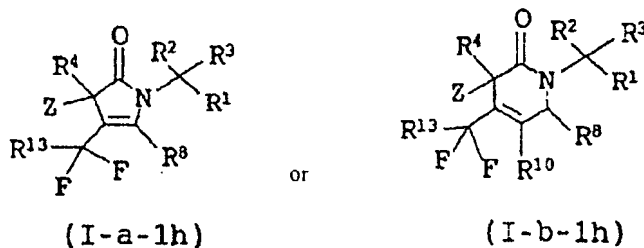
or



(I-b-1e)

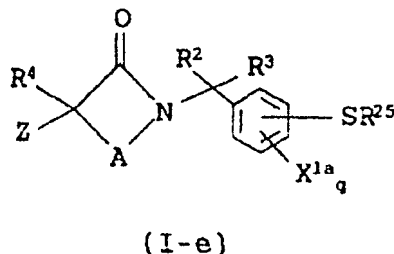
(wherein, R13, R23 and R24 have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(10) a compound represented by formula (1-a-2a) or (1-b-2a) or a salt thereof in accordance with the aforesaid (6) is reacted with a fluorinating agent, and thereby producing a compound represented by

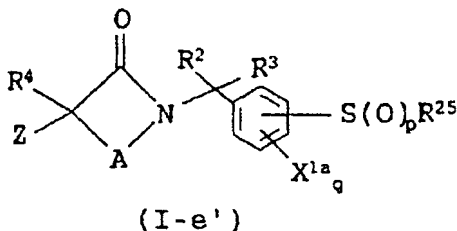


(wherein, R13 has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(11) a compound represented by formula

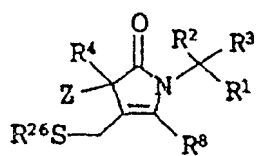


(wherein, R25 denotes 1-6C alkyl group optionally substituted by 1-3 halogens, 2-6C alkenyl group, 2-6C alkynyl group or phenyl group, and q denotes an integer of 0-2, and X1a is the same or different and denotes halogen atom or 1-6C alkyl group optionally substituted by 1-3 halogens, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with an oxidant, and thereby producing a compound represented by

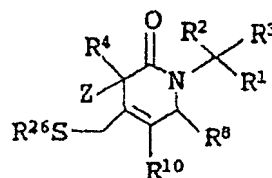


(wherein, p denotes 1 or 2, and R25, X1a and q have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(12) a compound represented by formula



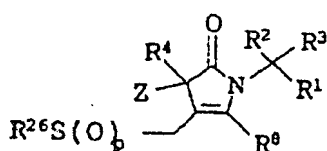
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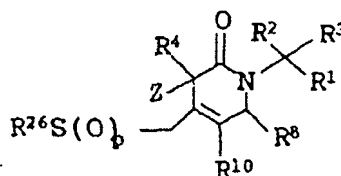
(I-a-1f)

(I-b-1f)

(wherein, R26 denotes 1-6C alkyl group, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with an oxidant, and thereby producing a compound represented by



or

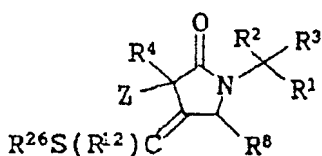


(I-a-1g)

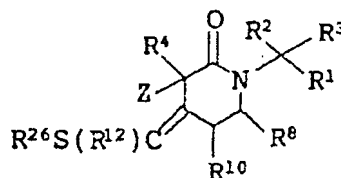
(I-b-1g)

(wherein, R26 and p have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(13) a compound represented by formula



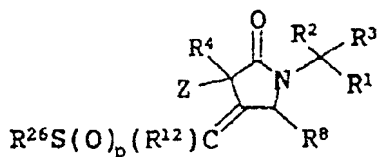
or



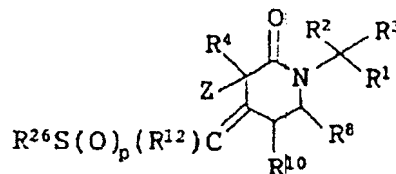
(I-c-2)

(I-d-2)

(wherein, R26 has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with an oxidant, and thereby producing a compound represented by



or

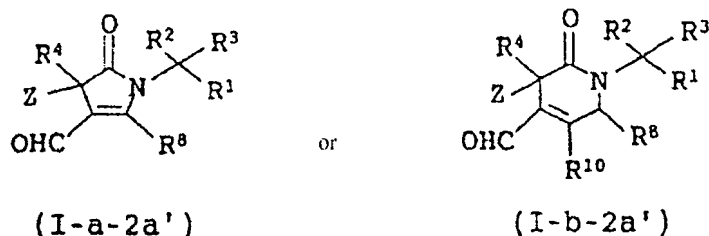


(I-c-3)

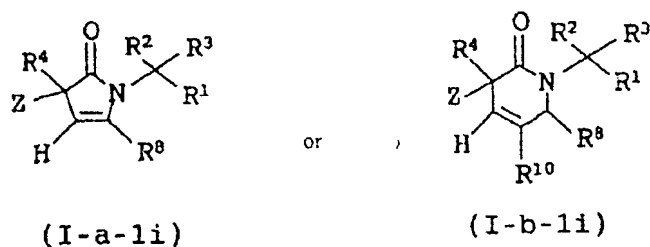
(I-d-3)

(wherein, R26 and p have the same aforesaid meanings, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(14) a compound represented by formula

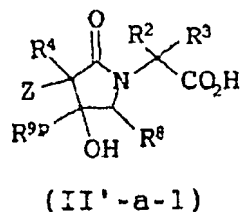


(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof is reacted with an organic rhodium complex, and thereby producing a compound represented by



(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof;

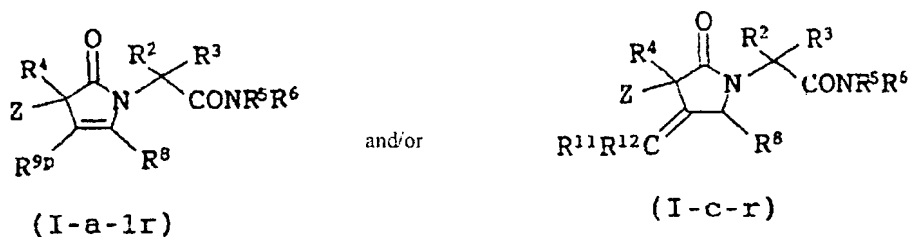
(15) a compound represented by formula



(wherein, R9p has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with halogenating agent and thereafter, is reacted with a compound represented by formula

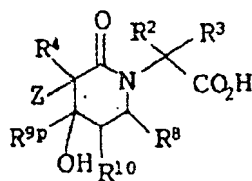


(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof, and thereby producing a compound represented by



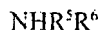
(wherein, R9p has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(16) a compound represented by formula

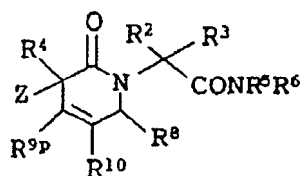


(II'-b-1)

(wherein, R_{9p} has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with halogenating agent and thereafter, is reacted with a compound represented by formula

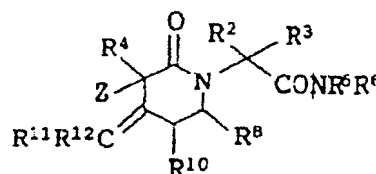


(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof, and thereby producing a compound represented by



(I-b-1r)

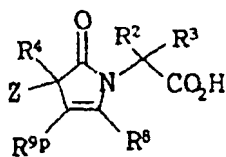
and/or



(I-d-r)

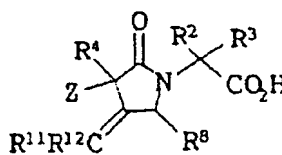
(wherein, R_{9p} has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof;

(17) a compound represented by formula



(I'-a-1)

or



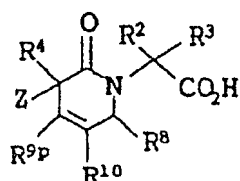
(I'-c-1)

(wherein, R_{9p} has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with halogenating agent and thereafter, the obtained acid halide compound is reacted with a compound represented by formula



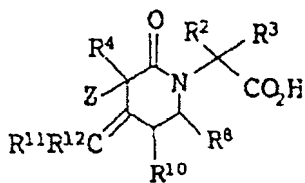
(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof, and thereby producing a compound represented by formula (I-a-1r) or (I-c-r) or a salt thereof in accordance with the aforesaid (15); or

(18) a compound represented by formula



(I'-b-1)

or



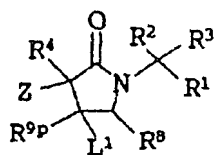
(I'-d-1)

(wherein, R_{9p} has the same aforesaid meaning, and other symbols have the same meanings as described in Claim 1) or a salt thereof is reacted with halogenating agent and thereafter, the obtained acid halide compound is reacted with a compound represented by formula



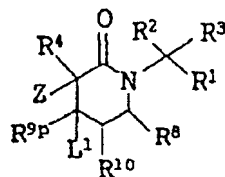
(wherein, each symbol has the same meanings as described in Claim 1) or a salt thereof, and thereby producing a compound represented by formula (1-b-1r) or (1-d-r) or a salt thereof in accordance with the aforesaid (16).

20. A compound or salts thereof represented by formula



(II-a-1x)

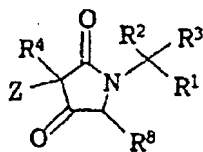
or



(II-b-1x)

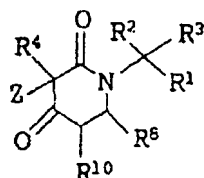
[wherein, R_{9p} has same the aforesaid meaning as Claim 19, L1 denotes halogen atom, hydroxy group, or a group represented by -OS(O)Cl or a compound represented by formula -OS(O)₂R¹⁸ (wherein, R¹⁸ denotes optionally substituted hydrocarbon group), and other symbols have the same meanings as described in Claim 1)].

21. A compound or salts thereof represented by formula



(II-a-3)

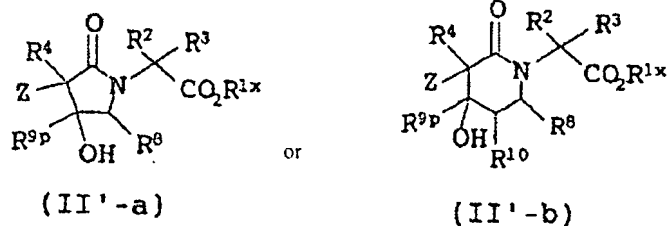
or



(II-b-3)

(wherein, each symbol has the same meanings as described in Claim 1).

22. A compound or salts thereof represented by formula



(wherein, R^{1x} denotes a hydrogen atom, benzyl group or tert-butyl group, and R^{9p} has the same aforesaid meaning as described in Claim 19, and other symbols have the same meanings as described in Claim 1).

23. A herbicide containing compounds or salts thereof in accordance with Claim 1.
24. A herbicide in accordance with Claim 23 that is a herbicide for paddy field.
25. The use of compounds in accordance with Claim 1 as herbicide.
26. Weeding process of paddy field weeds characterised in that compounds or salts thereof in accordance with Claim 1 are applied to paddy field.
27. A surface floating granular agent containing compounds or salts thereof in accordance with Claim 1.
28. A surface floating granular agent in accordance with Claim 27, characterized by further containing binding agent, surface active agent and powder base having specific gravity of 1 or less.
29. A surface floating granular agent in accordance with Claim 28, wherein the binding agent is one kind or more to be selected from carboxymethylcellulose or salts thereof and polycarboxylic acid system polymer compound or salts thereof.
30. A surface floating granular agent in accordance with Claim 28, wherein the surface active agent is at least one selected from the alkyl sulfosuccinate or acetylene glycol system surface active agent.
31. A surface floating granular agent in accordance with Claim 28, wherein the powder base having specific gravity of 1 or less is pearlite.

32. A surface floating granular agent in accordance with Claim 27, wherein an organic solvent is contained furthermore.

33. A surface floating granular agent in accordance with Claim 32, wherein the organic solvent is methylnaphthalene.

34. A surface floating granular agent in accordance with Claim 27, characterized in that other herbicidal component is contained furthermore.

35. A surface floating granular agent in accordance with Claim 34, wherein the other herbicidal component is imazosulfuron.

36. A surface floating granular agent in accordance with Claim 27, which is wrapped by 20-200g units in water-soluble film.

37. An aqueous suspension agent containing compounds or salts thereof in accordance with Claim 1.

38. An aqueous suspension agent in accordance with Claim 37, characterized in that a surface active agent is contained furthermore.

39. An aqueous suspension agent in accordance with Claim 38, wherein the surface active agent is one kind or more to be selected from alkyl sulfosuccinate and polyoxyethylene alkyl aryl phosphonic acid ester salt.

40. An aqueous suspension agent in accordance with Claim 37, characterized in that other herbicidal component is contained furthermore.

41. An aqueous suspension agent in accordance with Claim 40, wherein the other herbicidal component is imazosulfuron.

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